401 KAR 42:060

SITE CHECK OUTLINE

ENERGY AND ENVIRONMENT CABINET
DIVISION OF WASTE MANAGEMENT
UNDERGROUND STORAGE TANK BRANCH
200 FAIR OAKS LANE, 2ND FLOOR
FRANKFORT, KENTUCKY 40601
502-564-5981
http://waste.ky.gov/ust

AUGUST 2006

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INTRODUCTION

Pursuant to the Kentucky Administrative Regulations (KAR) Title 401 42:050 and 42:060, owners and operators shall perform a site check as directed by the cabinet in response to a suspected release. The site check shall measure for the presence of a release where it is most likely to have occurred at a site. Refer to 401 KAR 42:250 for reimbursement requirements related to site checks.

The cabinet shall require a site investigation if contamination levels, outside of the excavation zone, exceed those outlined in the Classification Outline (August 2006), incorporated by reference in 401 KAR 42:080, for regulated petroleum underground storage tank (UST) system(s), or if contamination levels, outside of the excavation zone, exceed those outlined in Tables A and B of this outline or Tables A and B of the Site Investigation Outline (August 2006), incorporated by reference in 401 KAR 42:060, or in Tables A and B in the Closure Outline (August 2006), incorporated by reference in 401 KAR 42:070, for regulated non-petroleum UST systems. Refer to 401 KAR 42:011 for UST system(s) excluded from this outline.

A suspected or confirmed release shall be reported immediately to the Environmental Response Team at 800-928-2380 or 502-564-2380. The Incident Number assigned to the release report shall be included in the Site Check Report.

For definitions of terms used within this outline, refer to 401 KAR 42:005.

This outline provides the minimum requirements for a Site Check Report. Some UST facilities have unique features and may require additional information. The cabinet will send a written directive for all field work required.

The completed Site Check Report shall document the presence or absence of contamination, and shall be submitted to the UST Branch of the Division of Waste Management within thirty (30) days from the date of the written directive from the cabinet.

Review the Classification Outline (August 2006), which is incorporated by reference in 401 KAR 42:080 for additional information.

A Classification Guide DEP 8056 (January 2006) and Site Check Report, including the Site Check Report Checklist, shall be completed and signed by a Professional Engineer (P.E.) registered with the Kentucky Board of Licensure for Professional Engineers and Land Surveyors, or a Professional Geologist (P.G.) registered with the Kentucky Board of Registration for Professional Geologists.

The following shall be addressed in the site check report:

1.0 EXECUTIVE SUMMARY

1.1 Provide a detailed description of the incident that initiated the site check.
1.2 Provide a discussion of the analytical results of the field investigations. Include a table that summarizes the analytical data.
1.3 Provide conclusions drawn from the field investigations and recommendations for additional actions, if necessary.

2.0 SITE INFORMATION AND HISTORY

2.1 Provide the site name, location (street address, city, and county), and Agency Interest number.
2.2 Indicate the name, address, and telephone number of the property owner.
2.3 Provide the name, address, and telephone number of the site operator.
2.4 Summarize all commercial and non-commercial activities conducted at the site. Include a history of past and present underground storage tank and piping systems at the site. Information shall include tank size, past and present contents, installation dates, excavation zone dimensions, and construction materials of the tanks and piping.

3.0 UST SYSTEM RELEASE DETECTION

3.1 Submit a copy of the most recent tank and line tightness test. The cabinet may request an updated tank and line tightness test during site check activities.
3.2 Submit a copy of the repair records for the previous twelve (12) months.
3.3 Submit a copy of the three (3) most recent months of UST system release detection records which may include daily inventory control records reconciled with delivery invoices to show net loss or gain over the period or other methods of leak detection as required in 401 KAR 42:040.

4.0 FIELD INVESTIGATIONS

4.1 Soil samples shall be collected in accordance with a written directive from the cabinet. The cabinet shall, by written directive, specify the number of samples to be collected. Samples shall be collected in areas where contamination is most likely to be present (e.g., the areas around the underground storage tank pit, the bottom of the underground storage tank pit, the distribution and vent piping, and the dispensers used to distribute, meter, or control the flow of regulated substances to and from the UST system(s), etc.). In selecting sample types, sample locations, and measurement methods, owners and operators must consider the nature of the stored substance, the type of initial alarm or cause for suspicion, the type of backfill, the depth of groundwater, and other factors appropriate for identifying the presence and source of the release. Provide information on sampling methodologies, such as sample handling, sampling equipment, decontamination procedures, preservation, analyses, logging, reporting, etc. For additional information on soil sample collection, handling, preservation, and analyses, refer to Section 6.0 of the Site Investigation Outline (August 2006) (401 KAR 42:060).
4.2 Submit information on the proper decommissioning of soil borings. Refer to Section 6.0 of the Site Investigation Outline (August 2006) (401 KAR 42:060) for more information about decommissioning soil borings.
4.3 Provide drilling logs depicting the total depth, detailed lithologic descriptions, and field screening results corresponding to depths measured. Drilling logs shall, at a minimum, include a detailed description of the thickness, color, texture, grain sorting, grain size, and grain shape of the materials encountered; a description of lenses or thin layers encountered; and the depth to water and elevation of the top of the well. Include any field observations such as odors and moisture changes. Boring logs shall indicate the sample

collection depth. Boring logs shall indicate the depth at which water was encountered, if applicable. Include a description of water if encountered (e.g., odor, sheen, turbidity, etc.).

5.0 ANALYTICAL RESULTS

5.1 Provide chain-of-custody documentation that identifies who has had possession of the sample, the time of possession, and where the sample has been from the time of collection until the laboratory accepts it. The chain-of-custody shall indicate the method of preservation and the temperature at which the samples were received by the laboratory. Chain-of-custody procedures shall be followed to ensure the validity of all samples. If the chain-of-custody is not maintained (e.g., if someone leaves a sample unattended), then the integrity of the sample is compromised and may be rejected by the cabinet. The chain-of-custody shall be developed as indicated by US EPA SW-846 requirements and shall be attached to all analytical results submitted.

5.2 Provide documentation indicating that recognized methods, pursuant to 40 CFR 260.11, in accordance with US EPA SW-846, were followed for sample collection, sample preservation, sampling equipment, decontamination procedures, sample containers, sample size, and maximum sample holding times (see Table C). Samples shall be delivered to an appropriate materials testing laboratory for the analysis required (see Tables A and B). The date the sample was collected, received, analyzed, and percent surrogate recovery, as well as all the US EPA SW-846 methods used to extract and analyze the sample, shall be indicated on the laboratory report. The laboratory report shall follow the US EPA SW-846 requirements. Analytical data sheets from the laboratory shall be submitted for site investigation reports.

5.3 Site check reports submitted to the cabinet shall discuss the validity of any flagged data (surrogate recovery data out of range, samples received at high temperature, etc.). An opinion about the validity of analytical results may be submitted from the laboratory.

6.0 WASTE HANDLING PROCEDURES

Provide disposal receipts, manifests or other documentation verifying proper disposal of any waste generated during the site check. Refer to Section 6.0 of the Closure Outline (August 2006) for more information.

7.0 SUBMITTAL OF FINAL REPORT

7.1 One (1) original and one (1) copy of the Site Check Report, Classification Guide DEP 8056 (January 2006), and Site Check Report Checklist shall be submitted within thirty (30) days of the written directive from the cabinet. The Agency Interest number shall be clearly marked on the first page of each document.

7.2 Provide a detailed, site-specific map indicating the locations of soil borings, which is to scale and includes a north arrow, legend, etc. The map shall show major features at the site such as buildings, roads, and UST system location.

8.0 OTHER CONSIDERATIONS

The cabinet reserves the right to require additional information or sampling. The owner/operator will be contacted in writing if more information is required.

The owner/operator/contractor/consultant bears the responsibility of exploring, identifying and addressing all potential safety hazards throughout the course of their work.

When free product is discovered during site check activities, contact the cabinet's UST Branch for a determination of necessary action (see 401 KAR 42:250 for eligible reimbursement procedures).

For information about financial assistance for remediation, contact the UST Branch's Claims and Payments Section at 200 Fair Oaks Lane, 2nd Floor, Frankfort, Kentucky 40601 or call 502-564-5981.

SITE CHECK REPORT CHECKLIST

Site Name: _____ County: _____

Location: _____ Agency Interest #: _____

Indicate the page number for each item included in the site check report. Omitted items shall be addressed in the report's cover letter. The complete checklist shall be submitted with each copy of the final report in order to expedite review of the site check report.

Page #

1.0 Executive Summary

_____ 1.1 Provide a detailed description of the incident that initiated the site check.
_____ 1.2 Summarize the results of the field investigations.
_____ 1.3 Outline conclusions and recommendations.

2.0 Site Information and History

_____ 2.1 List the site name, location (street address, city, and county) and the Agency Interest number.
_____ 2.2 Include the property owner's name, address, and telephone number.
_____ 2.3 Provide the site operator's name, address, and telephone number.
_____ 2.4 Submit a summary of the commercial and private activities at the site. Include a history of the underground storage tank and piping systems at the site (all tanks and piping past/present, age, size, contents, construction, etc.).

3.0 UST System Release Detection

_____ 3.1 Provide a copy of the most recent tank and line tightness test.
_____ 3.2 Provide a copy of the repair records for the last twelve (12) months.
_____ 3.3 Provide leak detection records for three (3) months prior to the UST system release.

4.0 Field Investigations

_____ 4.1 Provide information on sample collection, handling, preservation, analyses, logging, reporting, etc.
_____ 4.2 Provide information on the proper decommissioning of any soil borings.
_____ 4.3 Provide drilling logs depicting the total depth, lithologies, and field screening results. Boring logs shall indicate the sample collection depth. Boring logs shall indicate the depth water was encountered if applicable.

5.0 Analytical Results

_____ 5.1 Provide chain of custody records, including the method of preservation and temperature received at the laboratory on the chain-of-custody.
_____ 5.2 Submit analytical results including the SW-846 method numbers, method detection limits, sample preservation, sampling equipment, decontamination procedures, sample containers, sample size, sample holding times, etc.
_____ 5.3 Flag data/anomalous data discussed.

6.0 Waste Handling Procedures

_____ 6.0 Provide disposal receipts, manifests, or other documentation of proper disposal of waste generated during the site check.

7.0 Submittal of the Final Report

_____ 7.1 Provide one (1) original and one (1) copy of the site check report, Classification Guide DEP 8056 (January 2006), and this checklist. The Agency Interest number shall be included on the first page of every document submitted.
_____ 7.2 Provide a detailed, site-specific map indicating the locations of soil borings which is to scale and includes a north arrow, legend, etc. The map shall show major features at the site such as buildings, roads, and UST system location.

CERTIFICATION OF SITE CHECK REPORT

Under the requirements of KRS Chapter 322 and 322A, this Site Check Report shall be completed and signed by a PE registered with the Kentucky State Board of Licensure for Professional Engineers and Land Surveyors or a PG registered with the Kentucky Board of Registration for Professional Geologists.

I, the undersigned, under penalty of law, and in accordance with the provisions of KRS Chapter 322 or KRS Chapter 322A, as appropriate, hereby certify that the information submitted herewith, including all attached documents, is true, accurate, and complete. KRS 224.99-010(4) provides for penalties for submitting false information, including the possibility of fine and imprisonment.

Name and Title (Type or Print):

_____

Signature/Date:

_____

Registration Number, Date and Seal:

_____

SEAL

Table A
Analytical Requirements for Soil Samples

Product stored in UST System	Required Analysis	Acceptable Method	Maximum Acceptable Reporting Limit
Gasoline, Kerosene, or Jet Fuel	BTEX	Method 5030 in conjunction with SW-846 8240, 8260, 8020, or 8021	B: <0.01 ppm T: <0.7 ppm E: <0.9 ppm X: <5.0 ppm
Diesel or regulated Heating Oil	PAH	Method 3540 or 3550 in conjunction with SW-846 8100, 8270, or 8310	Ch: <15 ppm B(a)A: <0.15 ppm c PAH: <0.3 ppm n PAH: <3.0 ppm NAP: <1.0 ppm
Waste Oil	PAH Total Lead	Method 3540 or 3550 in conjunction with SW-846 8100, 8270, or 8310 SW-846 7420, 7421, or 6010	Ch: <15 ppm B(a)A: <0.15 ppm c PAH: <0.3 ppm n PAH: <3.0 ppm NAP: <1.0 ppm Total Lead < 50 ppm
New Oil	PAH	Method 3540 or 3550 in conjunction with SW-846 8100, 8270, or 8310	Ch: <15 ppm B(a)A: <0.15 ppm c PAH: <0.3 ppm n PAH: <3.0 ppm NAP: <1.0 ppm
Other Petroleum or Non-Petroleum	Contact the UST Branch		

BTEX: Benzene, Toluene, Ethylbenzene, and Xylene (total)
PAH: Polynuclear Aromatic Hydrocarbons
Ch: Allowable level individually for Chrysene
B(a)A: Allowable level individually for Benzo(a)anthracene
c PAH: Maximum Acceptable Reporting Limit Individually for Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, and Indeno(1,2,3-cd)pyrene
n PAH: Maximum Acceptable Reporting Limit Individually for Acenaphthene, Acenaphthylene, Anthracene, Benzo(ghi)perylene, Fluoranthene, Fluorene, Phenanthrene and Pyrene
NAP: Naphthalene
ppm: parts per million (mg/kg)

Table B
Analytical Requirements for Water Samples

Product stored in UST System	Required Analysis	Acceptable Method	Maximum Acceptable Reporting Limit
Gasoline, Kerosene, or Jet Fuel	BTEX	Method 5030 in conjunction with SW-846 8240, 8260, 8020, or 8021	B: <0.005 ppm T: <1.0 ppm E: <0.7 ppm X: <10.0 ppm
Diesel or regulated Heating Oil	c PAH n PAH NAP	Method 3510 or 3520 in conjunction with SW-846 8100, 8270, or 8310	c PAH: <0.005 ppm n PAH: <3.0 ppm NAP: <0.3 ppm
Waste Oil	c PAH n PAH NAP Total Lead	Method 3510 or 3520 in conjunction with SW-846 8100, 8270, 8310 SW-846 7420, 7421, or 6010	c PAH: <0.005 ppm n PAH: <3.0 ppm NAP: <0.3 ppm Total Lead <0.015 ppm
New Oil	c PAH n PAH NAP	Method 3510 or 3520 in conjunction with SW-846 8100, 8270, 8310	c PAH: <0.005 ppm n PAH: <3.0 ppm NAP: <0.3 ppm
Other Petroleum or Non-Petroleum	Contact the UST Branch		

BTEX: Benzene, Toluene, Ethylbenzene, and Xylene (total)
PAH: Polynuclear Aromatic Hydrocarbons
c PAH: Maximum Acceptable Reporting Limit Individually for Benzo(a)pyrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, and Indeno(1,2,3-cd)pyrene
n PAH: Maximum Acceptable Reporting Limit Individually for Acenaphthene, Acenaphthylene, Anthracene, Benzo(ghi)perylene, Fluoranthene, Fluorene, Phenanthrene, and Pyrene
NAP: Naphthalene
ppm: parts per million (mg/l)

Table C

Appropriate Containers, Sample Sizes, Preservation Techniques and Maximum Holding Times*

Parameter	Container Type	Sample Size	Preservation Method	Holding Times (Maximum)
Volatile Organics for Soil (BTEX)	Wide-mouth glass w/ Teflon lined cap	120 ml or 4 oz.	Cool to 4°C	14 days
Volatile Organics for Water (BTEX)	Two (2) clear glass w/ Teflon-lined cap (VOA)	40 ml or 1 oz.	Add four drops of HCl to ea., Cool to 4°C	14 days
Polynuclear Aromatic Hydrocarbons for Soil (PAH)	Wide-mouth glass w/ Teflon-lined cap	250 ml or 8 oz.	Cool to 4°C	14 days until lab extraction 40 days after lab extraction
Polynuclear Aromatic Hydrocarbons for Water (PAH)	Amber glass w/Teflon-lined cap	1 liter	Cool to 4°C	7 days until lab extraction 40 days after lab extraction
Total Lead for Soil	Wide-mouth glass w/ Teflon-lined cap	500 ml or 16 oz.	N/A	180 days
Total Lead for Water	Plastic or glass	500 ml or 16 oz.	Add HNO3 until pH is less than 2, cool to 4°C	180 days
Volatile Organics for Sludge (TCLP)	Wide-mouth glass w/ Teflon-lined cap	120 ml or 4 oz.	Cool to 4°C	14 days until lab extraction 14 days after lab extraction
Acid/Base/Neutral for Sludge (TCLP)	Wide-mouth glass w/ Teflon-lined cap	120 ml or 4 oz.	Cool to 4°C	14 days (hold) 7 days until lab extraction 40 days after lab extraction
Metals for Sludge (TCLP)	Wide-mouth glass w/ Teflon-lined cap	500 ml or 16 oz.	Cool to 4°C	180 days until lab extraction 180 days after lab extraction
Mercury for Sludge (TCLP)	Wide-mouth glass w/ Teflon-lined cap	500 ml or 16 oz.	Cool to 4°C	28 days until lab extraction 28 days after lab extraction

* FOR FURTHER INFORMATION REFER TO US EPA SW-846 PUBLICATION.